

AMENDMENTS TO THE CLAIMS

1. **(Currently Amended)** A wood-type golf club head head, which comprises:
a face portion forming a hitting face hitting a ball;
a crown portion extending from an upper edge of the hitting face and forming an
upper surface of the head;
a sole portion extending from a lower edge of the hitting face and forming a
bottom surface of the head;
a side portion extending between the crown portion and the sole portion from a
toe side edge of the hitting face to a heel side edge of the hitting face through a back
face; and
a neck portion formed with a shaft insertion hole to which one end of a shaft is
attached, wherein
in a measuring state where an axial center line of the shaft insertion hole is
arranged in a vertical plane and is inclined at a lie angle β determined in accordance
with the head, and a face angle is set to zero,
a point at which the axial center line of the shaft insertion hole crosses a virtual
plane passing through an upper end surface of the neck portion is set to an origin O,
and a two-dimensional X-Y coordinate in which a Y-axis is a nodal line between the
horizontal plane and the vertical plane, and an X-axis is an axis line passing through the
origin O and being perpendicular to the Y-axis is virtually set on the horizontal plane
passing through the origin O, and

in the case where the maximum value of the Y-axis in a profile line of the head projected on the X-Y coordinate system is set to y_m and the maximum value of the X-axis is set to x_m , a weight member having a great specific gravity is firmly attached to the sole portion in an area where a center of gravity of the weight member is set to 0.2 to 0.7 times of the x_m value in the X-coordinate and set to 0.1 to 0.5 times of the y_m value in the Y-coordinate,

wherein the specific gravity is in the range of from 6.0 to 25.0,

the weight member is mounted in a concave portion formed on the sole portion,
and the golf club head satisfies satisfying the following three conditions in a moment M of inertia around a center line of a shaft axis ($\text{g}\cdot\text{cm}^2$) and a depth L of center of gravity (mm):

- (1) $5950 \leq M \leq 7000$;
- (2) $30 \leq L \leq 50$; and
- (3) $M \leq (200 \times L) - 2000$.

2. **(Previously Presented)** The golf club head according to claim 1, further satisfying the following two conditions:

- (4) $M \leq (200 \times L) - 2390$; and
- (5) $M \geq (200 \times L) - 4500$.

3. **(Currently Amended)** The golf club head according to claim 1, further satisfying the following condition:

(6) ~~4420~~ 5950 $\leq M \leq 6500$.

4. **(Currently Amended)** The golf club head according to claim 1, further satisfying the following condition:

(7) ~~4600~~ 5950 $\leq M \leq 6000$.

5. **(Original)** The golf club head according to claim 1, further satisfying the following condition:

(8) $34 \leq L \leq 45$.

6. **(Original)** The golf club head according to claim 1, further satisfying the following condition:

(9) $37 \leq L \leq 42$.

7. **(Previously Presented)** The golf club head according to claim 1, further satisfying the following two conditions:

(10) $M \leq (200 \times L) - 2050$; and

(11) $M \geq (200 \times L) - 5000$.

8. **(Previously Presented)** The golf club head according to claim 1, further satisfying the following two conditions:

(12) $M \leq (200 \times L) - 3450$; and

$$(13) M \geq (200 \times L) - 4500.$$

9. (Canceled)

10. (Withdrawn) The golf club head according to claim 1, comprising:

a face portion forming a hitting face hitting a ball;

a crown portion extending from an upper edge of the hitting face and forming an upper surface of the head;

a sole portion extending from a lower edge of the hitting face and forming a bottom surface of the head;

a side portion extending between the crown portion and the sole portion from a toe side edge of the hitting face to a heel side edge of the hitting face through a back face; and

a neck portion formed with a shaft insertion hole to which one end of a shaft is attached, wherein

in a measuring state where an axial center line of the shaft insertion hole is arranged in a vertical plane and is inclined at a lie angle β determined in accordance with the head, and a face angle is set to zero,

a point at which the axial center line of the shaft insertion hole crosses a virtual plane passing through an upper end surface of the neck portion is set to an origin O, and a two-dimensional X-Y coordinate in which a Y-axis is a nodal line between the horizontal plane and the vertical plane, and an X-axis is an axis line passing through the

origin O and being perpendicular to the Y-axis is virtually set on the horizontal plane passing through the origin O, and

in the case where the maximum value of the Y-axis in a profile line of the head projected on the X-Y coordinate system is set to y_m and the maximum value of the X-axis is set to x_m , a thick portion having a greater thickness than the other portions is provided in the sole portion corresponding to an area where the X-coordinate is 0.2 to 0.7 times of the x_m value and the Y-coordinate is 0.1 to 0.5 times of the y_m value.

11. **(Withdrawn)** The golf club head according to claim 1, comprising:

a face portion forming a hitting face hitting a ball;

a crown portion extending from an upper edge of the hitting face and forming an upper surface of the head;

a sole portion extending from a lower edge of the hitting face and forming a bottom surface of the head;

a side portion extending between the crown portion and the sole portion from a toe side edge of the hitting face to a heel side edge of the hitting face through a back face; and

a neck portion formed with a shaft insertion hole to which one end of a shaft is attached, wherein

in a measuring state where an axial center line of the shaft insertion hole is arranged in a vertical plane and is inclined at a lie angle β determined in accordance with the head, and a face angle is set to zero,

a point at which the axial center line of the shaft insertion hole crosses a virtual plane passing through an upper end surface of the neck portion is set to an origin O, and a two-dimensional X-Y coordinate in which a Y-axis is a nodal line between the horizontal plane and the vertical plane and an X-axis is an axis line passing through the origin O and being perpendicular to the Y-axis is virtually set on the horizontal plane passing through the origin O, and

in the case where the maximum value of the Y-axis in a profile line of the head projected on the X-Y coordinate system is set to y_m and the maximum value of the X-axis is set to x_m , a thin portion having a smaller thickness than the other portions is provided in the sole portion corresponding to an area where the X-coordinate is equal to or less than 0.6 times of the x_m value and the Y-coordinate is equal to or more than 0.4 times of the y_m value.

12. **(Withdrawn)** The golf club head according to claim 1, comprising:

a face portion forming a hitting face hitting a ball;

a crown portion extending from an upper edge of the hitting face and forming an upper surface of the head;

a sole portion extending from a lower edge of the hitting face and forming a bottom surface of the head;

a side portion extending between the crown portion and the sole portion from a toe side edge of the hitting face to a heel side edge of the hitting face through a back face; and

a neck portion formed with a shaft insertion hole to which one end of a shaft is attached, wherein

in a measuring state where an axial center line of the shaft insertion hole is arranged in a vertical plane and is inclined at a lie angle β determined in accordance with the head, and a face angle is set to zero,

a point at which the axial center line of the shaft insertion hole crosses a virtual plane passing through an upper end surface of the neck portion is set to an origin O, and a two-dimensional X-Y coordinate in which a Y-axis is a nodal line between the horizontal plane and the vertical plane and an X-axis is an axis line passing through the origin O and being perpendicular to the Y-axis is virtually set on the horizontal plane passing through the origin O, and

in the case where the maximum value of the Y-axis in a profile line of the head projected on the X-Y coordinate system is set to y_m and the maximum value of the X-axis is set to x_m , a wavy portion having an increased surface area by an alternative connection between concave portions and convex portions is provided in the sole portion corresponding to an area where the X-coordinate is 0.2 to 0.7 times of the x_m value and the Y-coordinate is 0.1 to 0.5 times of the y_m value.

13. **(Currently Amended)** The golf club head according to ~~the claim 9~~ claim 1, wherein the concave portion has a thickness larger than other portions in the sole portion.

14. **(Currently Amended)** The golf club head according to ~~the claim 9~~ claim 1, wherein the concave portion has a bottom in contact with the weight member.

15. **(Currently Amended)** The golf club head according to ~~the claim 9~~ claim 1, wherein the weight member is mounted in the concave portion by plastically deforming the concave portion or the weight member itself.

16. **(Currently Amended)** The golf club head according to ~~the claim 9~~ claim 1, wherein the weight member has a mass of 5% to 15% of the entire mass of the head.

17. **(Previously Presented)** The wood-type golf club head according to claim 1, further satisfying the following condition:

$$(14) \quad 5990 \leq M \leq 7000.$$

18. **(Currently Amended)** ~~The wood-type golf club head according to claim 1,~~
~~wherein said head~~ A wood-type golf club head, which comprises:

a face portion forming a hitting face hitting the ball;

a sole portion extending from a lower edge of the hitting face and forming a bottom surface of the head, said sole portion having a concave portion for inserting a weight member thereto; and

the weight member mounted in the concave portion having a specific gravity in the range from 6.0 to 25.0, said weight member comprising:

a columnar body; and

a tapered portion extending from the columnar body to the outer surface of the sole portion, said tapered portion being covered with a plastically deforming portion of the concave portion so that the columnar body is fixed in the concave portion;

wherein the golf club head satisfies the following three conditions in a moment M of inertia around a center line of a shaft axis ($\text{g}\cdot\text{cm}^2$) and a depth L of center of gravity (mm):

(1) $5950 \leq M \leq 7000$;

(2) $30 \leq L \leq 50$; and

(3) $M \leq (200 \times L) - 2000$.